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Journal of the Society of Arts.

FRIDAY, SEPTEMBER 19, 1862.

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INTERNATIONAL EXHIBITION OF 1862.

CLOSE OF THE EXHIBITION.

Her Majesty's Commissioners have passed the following resolution :—

Resolved—"To close the Exhibition on Saturday, the 1st of November, but that the building shall remain open for another fortnight after that date, at higher prices of admission, in order to afford the Exhibitors in the Industrial Department an opportunity of selling their goods."

REPORTS OF THE JURIES.

The Council of the Society of Arts have felt the importance of having some permanent and authoritative Record of the International Exhibition, and finding that Her Majesty's Commissioners have provided only for the publication of the awards of the Juries, but not of their Reports descriptive of the Progress of Industry since the Exhibition of 1851, the Council have undertaken this work, with the co-operation of Her Majesty's Commissioners and of the Juries, and have placed the matter in charge of Dr. Lyon Playfair, the Special Commissioner of the Juries.

The Reports will be published in super royal octavo, to range with the one-volume Jury Reports of 1851. The price of the volume, bound in cloth, to Members of the Society of Arts, to Jurors, and Guarantors, is fixed at 10s. ; to other persons, 15s. If bound in morocco, 7s. 6d. additional in each case.

Forms of application for copies have been issued to Members of the Society, to Jurors, and to Guarantors.

It was the intention of the Council to issue the volume complete in the early part of the present month, but as several of the Reports have not yet been received by Her Majesty's Commissioners, the completion of the entire work has been unexpectedly delayed; the Council, however, unwilling to defer the publication of the Reports already completed, have determined to issue to the subscribers those that have been received up to the present time. When all the Reports are delivered, the parts now about to be issued to subscribers will be exchanged, if uninjured, for the perfect volume, bound or unbound, as desired.

NOTICES TO INSTITUTIONS.

Those Secretaries of Institutions who have not already forwarded to the Secretary of the Society of Arts copies of their last Annual Reports, are particularly requested to do so.

CONVERSAZIONE.

The third Conversazione of the present season will take place at the South Kensington Museum on the 8th October.

INTERNATIONAL EXHIBITION OF 1862.—Visits of Schools.

The following is a continuation of the Schools reported to Her Majesty's Commissioners as having entered the Building, from 8th to 11th September, 1862 :—

Date.	From what Locality.	Name of School.	By whom Sent.	No. of Children from each School.	Total each day.
Sept. 8	Hatfield	National	Hon. and Rev. W. C. Talbot.	14	14
„ 9	Sharnbrook (Beds)	National	H. H. Magniac, Esq.	46	324
„ „	St. George's (Hanover-square	Workhouse	Committee	61	
„ „	Marchwood (Hants)	Marchwood	H. F. K. Holloway, Esq.	13	
„ „	Clifford, Frome	National	Rev. W. B. Tritton	43	
„ „	Hounslow	Holly House	Mr. Samuel Mortimer	30	
„ „	Woolwich	St. Thomas's	Messrs. Craig and Sargent.	16	
„ „	Aylesbury (Bucks)	St. Margaret's	Teachers	32	
„ „	St. John's-grove, Richmond	Private	A. E. Gardner	9	
„ „	Putney	Martyn's	The Trustees	21	
„ „	East London	Shoe Black	Mr. Wise	18	
„ „	Winchester	Trafalgar House	Mr. Nash	35	
„ 10	Bermondsey	Bacon's Endowed	The Trustees	80	
„ „	Farringdon-street	British	Subscription	12	
„ „	West Smithfield	St. Bartholomew's	Rev. I. Abbiss	8	
„ „	Thatcham (Berks)	Lady Winchcomb's Charity	The Trustees	12	
„ „	Wantage (Berks)	Grammar	Rev. C. H. Crooke	19	
„ „	Kensington	Newton House	Mr. E. Williams	60	
„ „	King's Sutton (Notts).	Choir	Subscription	18	
„ „	London	Rag Collecting Brigade	Mr. Lloyd	21	

RETURN OF SCHOOLS (*Continued*).

DATE.	FROM WHAT LOCALITY.	NAME OF SCHOOL.	BY WHOM SENT.	No. of Children from each School.	Total each day.
,, ,,	Margaret-street, Cavendish-square	All Saints'	Rev. W. Richards	30	
,, ,,	Tottenham	National	Subscription	50	
,, ,,	Camberwell	Green Coat	Do.	65	
,, ,,	Bethnal-green	St. Matthew's	Do.	58	433
,, 11	Langley Marsh (Bucks)	Winter Evening	Subscription	24	
,, ,,	Blackheath	All Saints'	Rev. J. S. Clarke	14	
,, ,,	Mile-end	Bancroft's	Draper's Company	92	
,, ,,	Ealing	National	Baroness Rothschild and friends	135	
,, ,,	Egham	St. Giles' Choir	Rev. — Vincent	13	
,, ,,	Kennington	Oval	By Parents	26	
,, ,,	Boxgrove, Sussex	Box-grove	Rev. W. Barnett	23	
,, ,,	Wiltshire	Carsham	Lord Methuen	40	
,, ,,	Streatham, Surrey	National	Subscription	90	
,, ,,	East London	Shoe Black	Mr. Wise	18	
,, ,,	Bedminster (Bristol)	National and Choir	R. Phippen, Esq.	26	
,, ,,	Ruislep	National	Committee	59	
,, ,,	Notting-hill	Franciscan	T. Chandless, Esq.	10	
,, ,,	Do.	"Miss Horley's"	Miss Horley	14	
,, ,,	Hackney	Unitarian	Subscription	10	
,, ,,	Bayswater	Female Orphan Asylum	Mrs. H. Cullingford	10	
,, ,,	Druham (Uxbridge)	Endowed	Mr. and Mrs. Meson	35	
,, ,,	St. George's-in-the-East	St. Stephen's Home	Lady Superior	13	
,, ,,	Leigh, Essex	National	Rev. W. King	35	
,, ,,	New Cross, Deptford	Warehousemen and Clerks' Orphan Asylum	Messrs. Oppenheim & Sons.	71	758

VISITS OF WORKMEN.

The following is a continuation of the return of the number of workmen, mechanics, operatives, and others who have visited the building from 6th to 11th September, 1862 :—

DATE.	DESCRIPTION OF PERSONS.	FROM WHAT LOCALITY.	BY WHOM SENT.	NUMBER.
Sept. 6	Brewers	Spitalfields	Messrs. Truman and Co.	390
,, 8	Inmates of the Licensed Victuallers' Asylum	Old Kent-road	Committee	109
,, ,,	Workmen	Stonehouse, Gloucester	Mr. C. Hooper	600
,, ,,	42nd Company R. Volunteers	Lancashire	Subscription	63
,, ,,	21st Company R. Volunteers	Hampshire	Do.	50
,, ,,	Iron Founders	Lambeth	Messrs. Smith and McGaw	250
,, ,,	Artisans	Paris	Prince Jerome Buonaparte	40
,, 9	Aged Inmates of Workhouse	St. George's, Hanover-sq.	Committee	58
,, ,,	Villagers	Wotton, Surrey	W. Nicholson, Esq.	62
,, ,,	42nd Company R. Volunteers	Lancashire	Officers	70
,, ,,	Canvas Weavers	Doncaster	C. J. Fox, Esq.	30
,, ,,	Mouse-trap Makers	Salsey, Sussex	Mr. D. Pullinger	28
,, 10	Needlewomen	Colchester	F. W. Hurst	26
,, ,,	Brewers	Hoddesden	Messrs. Christie and Co.	16
,, ,,	Glass Makers	Birmingham	Messrs. Chance and Co.	650*
,, ,,	Brewers	Brentwood	Messrs. Fielden and Co.	53
,, ,,	Cotton Spinners	Staley Bridge (Lancashire)	Subscription	17
,, ,,	Military Pensioners	R. H. Chelsea	The Commissioners	52
,, ,,	Men of the P. and O. Steam Packet Company	Southampton	A. Anderson, Esq.	181
,, ,,	Corn Merchants' Assistants	King-street, Borough	Mr. Russell	18
,, 11	Biscuit Bakers, Men and Families	Reading (Berks)	Messrs. Huntley and Palmers	1,060
,, ,,	Inmates of Bancroft Almshouses	Mile-end	Drapers' Company	50
,, ,,	Undertakers	Euston-road	Antill and Co.	17
		Total		3,890

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* These, together with 650 in last week's return, and 65 who came on the 6th of August, and not included in any return, make a total of 1,545 sent by Messrs. Chance and Co.

CHEMICAL SUBSTANCES AND PRODUCTS OF INDIA.

The following information on this subject is extracted from the Descriptive Catalogue of the contributions from India to the International Exhibition:—

Two descriptions of salt are produced at Cuttack; the first, called *Pungah* salt, is obtained by boiling to a residuum highly concentrated brine; the second is the *Kurkutch*, or gravel salt. As the word signifies, it is produced by the aid of solar evaporation only, from sea-water. The water is introduced into small beds prepared with a smooth bottom of clay, slightly depressed in the ground, and surrounded by a slight ridge of earth. A few hours' exposure in the burning sun of March and the two following months, is sufficient to evaporate the water in these beds, which deposits the salt it held in solution. A fresh supply is then let in, and the process of total or only partial evaporation is continued, till the bottom of the beds is covered with a layer of this salt, more or less thick, which is then scraped up.

Both these kinds of salt are produced all along the seaboard of the province from February to June, and under what is practically a Government monopoly. The last season's manufacture amounted to 50,000 tons of the one and 44,000 tons of the other. The production is considered handsomely to remunerate the petty contractors who engage with Government for its supply, at 10 annas and 4 annas per maund for each kind respectively, which is equivalent to 35s. 5d. per ton for the one, and 14s. 5d. per ton for the other, in English money and measure. To the Pungah must be added about 50 per cent., to the Kurkutch about 25 per cent., for expenses of superintendence, &c. To the more extended manufacture of the white salt, the present insalubrity of the manufacturing localities and the consequent difficulty of procuring labour, as well as the insufficiency of the fuel supply, are obstacles. The coarser kind may be manufactured *ad infinitum*, but it is no where appreciated so much as locally, that is, in the district, as, not being "cooked" like the Pungah, it is more acceptable to the scrupulous caste prejudices of the Oryahs. The bulk of both kinds is exported to Calcutta. The local retail price at Cuttack in the shops of the bazaar for Kurkutch is 6s. 3d. per maund of 100 English lbs.; Pungah is sold at the Government depôts at 8s. 3d. per maund.

The Local Committee of Cuttack, in specifying the local prices of articles, do so with this explanation, that it is impossible to give any rates which are average ones, or which are in any degree equally applicable all over the district. Where any particular article is produced, there it is cheapest, and the cost and difficulty of transport and the want of competition are such, that a distance of 50 miles between the place of production and the central market, makes a difference in price of 50 or 100 per cent. in the rates at which some articles are bought and then sold. This is especially the case with the oil seeds of the province, cotton, &c. Under these circumstances it would have been impossible for the Committee to have stated any average rates. The prices which have been generally mentioned in the catalogue are the local, that is, the Cuttack bazaar retail prices. It may be as well to state that all articles coming from Sumbulpore or elsewhere, by river carriage, are cheapest in the months of July and August, when the rivers first admit of navigation, and that between July and January the rates for the same articles may vary as much as 50 per cent.

There are five salt mines in the Shahpore district worked by Government in the salt range; one at Kalabagh, across the Indus, and several in the Kohat district, and the supply from these sources may be said to be inexhaustible. An excise duty of rupees 3 per maund of 80 lbs. is now charged upon all salt sold, the rate having been lately increased (two years ago it was but 2 rupees); and the revenue derived from this source amounted to upwards of £280,000. The salt mines are the means of supplying the traders of the Punjab with a kind of paper currency. By payment of the regulated price at any of the Punjab treasuries, a warrant for the delivery of so much salt at the mines may be obtained; these documents are transferable, and pass from hand to hand like bank notes.

Nitre saltpetre, locally "*Khai jabkahi*," is produced in Cuttack. Some is manufactured by a process of solution and filtration, which it would be unnecessary here to describe, from a thin whitish efflorescence scraped off old mud walls and buildings, &c., where it is produced more or less in all localities freely, and continually exposed to the action of sea air in the cold season, and dependent on the existence of certain conditions. Some is more carefully prepared, for the most part only in the hill tracts, from a similar efflorescence found in the cold months on the base of cow-house walls, and there generated, it is to be supposed, by the action of the ammonia thrown off from the urine of the cattle. Neither kind is manufactured extensively enough for commercial purposes, still the local manufacture furnishes a good deal of the petre, if not the bulk of it, used in native gunpowder for shooting and fire-works.

Sal-ammoniac for tinning and frigorific mixture, 12 annas per seer, is made in various parts of Oude. It is manufactured from the contents of cesspools, and is used for tinning copper pots and pans; mixed with common salts, nitre, &c., it forms a frigorific mixture.

Nitrate of potash for frigorific mixtures and for gunpowder, three seers per rupee, is made in various parts of Oude. This is nitre of the first crystallization; nitre is found in the earth of old buildings and ruins, which has long been exposed to the air; water is filtered through this earth, and then boiled and concentrated. This kind is only used for frigorific mixtures.

Saltpetre and salt are produced abundantly in some parts of Shahabad, but crude saltpetre is prepared at from six to seven rupees per local maund by the Nooneahs; this in its crude state would be £15 to £18 per ton, while the salt produced with the saltpetre is of a coarse kind, and only sold to the poorest of the community, under the names of "*Kharree Nimuck*." It can, however, easily be purified by boiling, and then is a good and pure salt.

It may be here noticed, as an important and singular fact, that the strata on the north, east, and south faces, (where the face of the plateau towards the plains is invariably precipitous) has a considerable dip inwards, varying from 5 to 45 degrees. This circumstance prevents any springs making their appearance on the face, which would have the effect of leaving the table lands dry, and would render them a desert. This fortunate dip has a contrary effect, retaining the moisture as in a basin, and water in consequence may be had in most places on the table lands at a moderate depth, while in several localities springs of pure and limpid water flow above the surface all round the year, consequently numbers of villages shed the table lands, and it is probable that not many years more will elapse before large tracts are brought into a more profitable cultivation of coffee, cotton, and oil seeds, by European energy and skill. The finest rice produced in the district is already grown in their shallow valleys, and, when the soil has been subjected to the plough, proves by its abundant crops what it might produce under a proper cultivation.

Vitriol was once largely manufactured on the banks of the Soane, in Shahabad, from sulphate of iron, the product of the Kymore range; but the death of the gentlemen who instituted the manufacture stayed it. It is now only a native manufacture on a small scale.

Soap is made from cow's suet and a peculiar efflorescence gathered from barren land, called by natives Oosur. The efflorescence is called Rêh. It is used for washing; eight seers per rupee.

Tinder from the sago palm is found under the leaf of a sago palm tree, and ignites very easily.

Bat's dung is mixed with water and ashes, and strained and left to dry, when ammonia effloresces, and is used as an ingredient for gunpowder. It is also used for manure (guano).

An article called Sajjee is used in soap manufacture. Sajjee is made in considerable quantities in the districts of Mooltan, Jung, Jhelum, and Thanessur. It sells for about 32 lbs. per shilling.

Oil Seeds.

The Ricinus Communis, known by the provincial name of Bheeree, has two or three marked varieties; it is largely cultivated in Shahabad, principally for home use, though a considerable quantity finds its way into the castor-oil factories of Dinapore. The native process only succeeds in making a very impure oil, which is so offensive for its smoking qualities in burning, that it is not sought after by them for that purpose, but only for anointing leathern well ropes, shoes, &c., and, being a cheap oil, is largely used for the latter purpose. It is thick and viscid, and, extracted under the native process, soon turns rancid, while by the European process, it is next to the cocoanut oil, one of the purest and best burning oils known. The plant requires scarcely any cultivation, and in South Shahabad is oftener sown on the borders of a valuable field as a hedge than for any other purposes. It loves, however, a sandy loam, and will not grow in the clays. Its yield under the native process is about 33 per cent. of the impure oil above described, but a larger quantity, and a purer oil, is extracted by the European process. Newly cleared jungle lands grow the castor plant abundantly, and its extended cultivation is only bounded by the demands in the market, so long as the rates are remunerative; for although the sowing and tendence of the plant costs little trouble, yet the picking of the seed is a troublesome process, and it requires a much larger amount of room to come to perfection. The natives sow and uproot the plant yearly. It is not known why this should be, as it grows and yields abundantly, the second and third years, in hedges, or other open places. When cultivated by itself, the natives always sow the seed too close, and consequently the plant is comparatively small; for attaining its full perfection no place is better for it than a hedge or a bank.

The Ricinus Communis is cultivated in Lucknow as a mixed crop. It is sown in June by almost all the villagers, not extensively, but principally for their own use. Its cultivation can be extended all over Oude. This oil is extracted by bruising the seed and then boiling it in water. The oil is afterwards skimmed off. This is the only seed out of which the oil is extracted by boiling, as in this case it is found cheaper than the method used for other seeds, which is by pressure. The cost of the seed is one rupee per maund, and the price of the oil is from two to five seers per rupee, according to the abundance of the crop in the season. The proportion of the oil yielded is about half the weight of the seeds boiled; used only for burning.

The plant is grown all over the province of Cuttack, a good deal in patches of newly cleared land in the jungles of the Tributary States and Sumbulpore. The oil is extracted in two ways. It is used for burning and culinary purposes, and medicinally also. The local market is now 11½ petuls of the seeds per rupee. Both the native methods of extracting oil are wasteful and tedious, and therefore expensive. European oil presses and a knowledge of some methods of clarifying the expressed oil, seem only to be required to render the oil seed crops of this extensive division of great value.

The flax *Linum Usitatissimum* is a well-known plant almost all over the world, but is in most parts of civilized Europe more cultivated for its flax than for its seed. In Russia and in India the contrary is the case, and it may fairly be said that in India its flax-producing qualities are unknown. It is therefore cultivated as an oil-seed alone. It is, however, probable that the stunted plants grown in India would be of little use as a flax bearer, until improved cultivation had again raised its standard of height. In the Punjab and in Scinde considerable attention has of late been paid to this subject, and it would be an additional staple added to the agricultural resources of Shahabad and Behar, could it be brought under cultivation as a flax bearer here, which it doubtless could be with the same advantage as in the Punjab. It is always grown in Shahabad as an auxiliary crop with wheat, masoor, barley, and the spring crops; its bright blue flowers are a pleasing relief to the yellowish brown of the other cereals. I have never known it cultivated alone, so that I have no data as to its probable yield per beegah or acre. It would probably not be found to differ much from the linseed crops of England in that respect, were the cultivation equal: that is to say, were the same labour bestowed upon its cultivation, which, however, is not the case in this district at least. Its favourite soil appears to be the black clay (*kurile*), but it is sown largely in other soils, and the only difficulty to its indefinite extension appears to be want of facilities for carrying the crop to market. It is therefore grown in south Shahabad, principally for home consumption, and is used largely for lamps under the name of *Teesee-ka-Tel.* Under the native process it produces 25 per cent. of oil: what it would produce with the European method I am unable to say. The native method produces a tolerably clear-looking oil, but it smokes much in burning, showing that a large proportion of vegetable fibre finds its way through the rude press into the pure oil. Considerable quantities are grown near the Ganges for export. The price varies much according to the season and the quantity in the market. I have known it to sell for Rs. 40, or £4 sterling per ton, and I have known it fetch double that price. Until roads, railroads, and canals, with better modes of conveyance than exist at present, equalize prices, no average of price can be given with any certainty, as one season in one part of the country may have been favourable, and in another part unfavourable, all within a radius of twenty miles, and the two places show a difference of 50 per cent. in the selling price as well as in production: thus proving how imperfect are the means of transport from one part of the country to another, which would otherwise equalize the produce in the dearest market till a medium was found, or in other words, till further export to that place was unprofitable.

It is grown all over Oude, and only cultivated for the sake of the oil of its seed. Some fishermen make their nets from the fibre. This is cultivated as a mixed crop, principally with *grain* all over Oude. It is sown in the month of October, and never irrigated. It is never sown thickly, as the object is to get a large amount of seed for oil, and not fibre. It can be cultivated extensively, and there is no doubt that, with proper treatment, profitably for its fibre. The oil is extracted by pressing. The seed sells for 18¾ seers per rupee, and the oil for five seers per rupee. Every five seers of seed yield 1¼ seers of oil by the native process of pressing; used for cooking and burning.

Mustard (*Sinapis Ramosa*) is cultivated for its oil; one maund of mustard produces 13 seers of oil; cost rupees 5-3. Cost of conveyance to Calcutta, in dry season, rupees 10 per 100 maunds.

The *Sinapis Juncea* and *Ramosa* are not sown together, but each is cultivated as a mixed crop, with either grain, barley, wheat, or peas. In this way it is cultivated all over Oude. The oil is extracted in the usual way. The cost of the seed is 15½ seers per rupee, and that of the oil varies from three to eight seers per rupee. The proportion of oil extracted is 1½ seers from every five seers of seed; it is used for cooking and burning.

The *Sinapis Ramosa* and *Sinapis Dichotoma* are grown generally mixed with the rape seed, also called sarson, although the plant is a distinctly differing one, and the seed is a whitish-yellow: while the seed of the rape (*Sinapis Dichotoma*) is a dark-brown. They are rarely grown separately, though such is the case in many parts of the country, and ought to be the case here. It is grown extensively all over the district principally for local consumption, and, being sown in the month of October, is generally sown as an auxiliary with grain crops, amongst which its white and bright yellow flowers are easily distinguished. Being always sown as an auxiliary, it is impossible to ascertain what would be its yield per acre if sown separately. It loves the loam, and does not take kindly to any of the clays. It is ready before the close of February for cutting, and is always cut slightly green, or the seed pods would burst and scatter the seed. Being cut, the plant is dried on the threshing-floor by the heat of the sun, which does its work in three or four days, when the seed is easily threshed out. Cattle eat the broken stalks, but it is questionable how far it was a very nourishing food for them. It is sold in the bazaar at from 16 to 20 seers per rupee, and yields, under the native method of crushing, 30 per cent. of a tolerably pure oil, while the residue, or cake, is used as a food for cattle. It would yield more and a purer oil, under the action of the oil-pressing and purifying processes of Europe; and probably 35 to 40 per cent. of its gross weight. It is largely used by the native community with their food instead of ghee, under the name of *metah*, or sweet oil; although for all other purposes it passes under the name of *kurwah*, or bitter oil. Most natives prefer it for the preparation of their curries and other warm dishes. The native oilmen give one seer or 25 per cent. of the expressed oil for every four seers of seed sent them, they keeping the balance and the cake as the price of labour; so that, with the seed at 16 seers per rupee, the value of the oil would be four seers per rupee.

Of the *Sesamun Orientale* (Teel) a most useful plant, there are in the district of Shahabad two kinds, and both are extensively sown in various parts. The first is sown in July, and is ready for reaping in Kartick or Aghun, say in November: the second is sown in August, but they are both ready nearly at the same time. These plants are also sown as auxiliaries, but with the highland rain crops, such as Ruhur, Motha, &c. The seed has about the same value as *Surson* in the bazaars, but the oil being thinner and purer, and almost tasteless, while burning with little smoke, is extensively used in Indian perfumery. It is extracted from the seed in the same manner as other oils. The residue or cake is eaten by the poorer classes as an article of food, and is greedily devoured by cattle. It grows on sandy loams.

There are two varieties of the *Sesamun indicum.* The one white seeded called "Teellee," the other black seeded, called "Kala Teel." The two kinds are never sown together, but each is cultivated as a mixed crop with either *Eleusine Coracana,* "Merwah;" *Paspalum scorbiculatum,* "Kodo," *Cajanus Indicus,* "Arhar," or with cotton in the month of June. These plants grow all over Oude without the slightest difficulty, and without any care being taken of them. They are often met with growing luxuriantly by the road side. The oil is extracted by pressing. The cost of the seed of the white variety is 11 seers per rupee, and of the black 12 seers per rupee. The oil of the former fetches from 2½ to 4 seers per rupee, and of the latter 3 to 8 seers per rupee. Every 5 seers of each kind yield 1½ seers of oil. These seeds are also eaten by the natives made into sweetmeats; used for cooking and burning.

One maund of Teel (*Sesamun Orientale*) seeds produces 13 seers of oil. Cost, rupees 4-12. Cost of conveyance to Calcutta, in dry season, rupees 10 per 100 maund.

It is cultivated all over Oude for the sake of the oil contained in it. It is used for cooking and burning, and the seed boiled in sugar makes a sort of sweetmeat. It is often grown as a mixed crop: 13 seers per rupee.

The *Sesamum* black (Kala Teel) contains more oil than the white kind, and is eaten with *goor:* 11 seers per rupee.

The white and black sesamum are ordinarily used in the manufacture of oil in Rangoon.

In Moulmein it is used as oil for household purposes; one basket will yield about 25 viss of oil.

Price at Lahore about 9 lbs. per shilling. Both teel and linseed are mentioned by Strabo as staple products of this part of India. Of late years the cultivation of these seeds and oilseeds generally has greatly increased, especially in the Mooltan and Ferozepore districts, and considerable quantities have lately been exported to France.

The Brassica Erucastrum (Terra "Gomvah" or "Semvah") is cultivated in Lucknow in the same way as the above, the cost of the oil is from 3 to 10 seers per rupee. It is used for burning.

All oils in Oude are extracted by the native press called "Kolhoo," turned by means of bullocks, with the exception of the castor oil seed, the oil from which is extracted by boiling in water, and afterwards skimming.

The Carthamus Tinctoria (Kussoom) found in Lucknow and is sown in October either alone, or along the edge of wheat crops; both light and heavy soils are adapted to it. It is cultivated in every village, but not extensively. There would be no difficulty in further cultivating it to any extent. The oil is extracted by pressing. The cost of the seed, which is called "Barré," is 18¾ seers per rupee, and the cost of the oil is from three to four seers per rupee. This plant is also useful for the bright scarlet dye that its flower yields; used only for burning.

The Bassia Latifolia (Mohwah) a middle-sized tree, grows wild in the Taree, and is also planted in groves in most parts of Oude, near villages, &c. Its cultivation can be extended all over Oude, and it thrives without any trouble. Its flowers have a thickened and enlarged tube, in which is contained a considerable amount of sugar. They are dried and eaten by the natives, and also fermented for the manufacture of *Mohwah Spirits.* The cost of the oil extracted is rupees 3 per maund. The proportion of oil yielded by native process is about half the weight of the seed; used only for burning.

The poppy plant, Poshtah-ka-danna, the *Papaver sommiferum,* is largely cultivated in all parts of Shahabad and Behar, as also in the neighbouring districts, for the drug (which is a Government monopoly, the well known opium of commerce). The seed has no intoxicating qualities, but has a sweet taste, and is used, parched, by the lower class of natives as a food; it is also much used by the sweetmeat-makers as an addition in their wares. This and the seed of the teel "Sesamum Orientale" are the only oilseeds, with the exception of the cocoanut, which are used for that purpose. It produces, under the native method, a clear limpid oil, which, however, has the disadvantage of burning very quickly. About 30 per cent. of oil is extracted, and the cake is then sold as a food to the poorer classes. The oil at present sells at about 5 seers per rupee. It appears that this oil, if properly prepared, would, from its thin and limpid character, be admirably adapted to supersede many of the purposes, if not all, where the more expensive olive oils of southern France and Italy are now used, and would be an admirable watchmaker's oil. This is thrown out as a suggestion for some practical men to decide. The production of this seed is only limited by the production of the poppy.

In Lucknow each ryot sows from 2 to 4 beegahs in the month of October. It is capable of being cultivated all over Oude. The oil is extracted by the common native press. The cost of the seed is 10 seers for the rupee, and the oil sells for 3 seers for the rupee; two-fifths of the weight of the seed employed is about the proportion of oil yielded by the native process. The poppy seed is eaten by the natives made into sweetmeats, provided the opium has been extracted from the seed vessel, otherwise it is bitter and narcotic, and under these circumstances the oil extracted is also bitter. It is used for cooking and burning.

These seeds are grown to a very considerable extent all over this province, and are, at least the sesamum is, beginning to be an important item in its exports, principally to Marseilles, where it is used for the manufacture of Lucca oil. Large quantities are brought down from *Sumbulpore;* and *Ungool, Dhenkanal, Hindole,* and *Talchar* also supply a good deal of these seed oils. In the above-named states the cultivation of these crops can be extended to an indefinite degree, as the principal oil seeds there grown, the sesamum and castor, are sown broadcast over slightly tilled land, from which the jungle has been superficially cleared, or on rocky ground unfitted for the cultivation of any other crop. The oil of these seeds is expressed in the common native *Ghana* or oil mill. For private domestic use the farmer generally extracts the oil from the above as from other oil seeds, by making a mash of the seed and boiling that, by which process he obtains more oil of a better quality than from the oilman, though the cold-pressed oil is purer or clearer. Mustard seed oil is used generally for culinary purposes, and with the other oils for burning. The linseed plant, though grown extensively in the Sumbulpore district, and more or less all over the province, is nowhere cultivated for the flax it yields. All these oils are mixed together and sold under the name of mols, or thick oil. The local price of this common oil is, at the time of writing, 17s. 6d. per cuttack maund, 28 of which go to the ton weight. A good deal of this oil is exported to Calcutta, where the ruling prices are more than double the local. The most valuable of these oilseeds, namely, the sesamum, is of two kinds, named respectfully *Maghee* and *Bhodoe*, after the months in which they are plucked. The latter is the plumper seed, and yields the more oil. The season and prospects of the crop so govern the rates for these seeds that no average prices can be safely given.

SOUTH STAFFORDSHIRE EDUCATIONAL ASSOCIATION.

The members and friends of this Association held a Conference on Tuesday, September 9th, at the School of Art, Dudley. Lord Lyttelton presided, and the principal clergy and educationists of the district were present, and took part in the proceedings. The object of the conference was to afford a means of discussing various matters connected with the development of adult education in the district, either by means of Mechanics' Institutions and kindred societies, or through the agency of night schools. The managers of the Association were also desirous of obtaining a more accurate knowledge of the position and wants of the locality, and they accordingly solicited many of the best practical men to give the meeting the result of their experience, and their advice for the future.

The Noble Chairman, in his opening address, said that, as the meeting was not so much one of a general kind as one of detail, he would not detain them with many observations. They all knew the history of the South Staffordshire Association, and though there was no particular opposition to its progress, yet there was some apathy existing, which it was desirable to remove. Many of the subjects they might have to discuss required some elucidation, though there was no question as to the general importance of the objects of the society, and the appreciation it met with. They were anxious, before the annual meeting, which was announced to be held in a short time, to have some of the chief subjects brought forward, and therefore papers would be read upon various questions which occupied the interest of the members, and discussion would be invited. The papers, he understood, had been prepared with great care, and he hoped they would be in such a form as that they might on an early occasion be printed and circulated. As chairman, it would be simply his duty to call upon the gentlemen present who were prepared with papers to come forward, and the one by Mr. Hague, of Bilston, on "Recreation and Amusements in connection with Mechanics' and Kindred Institutions and Night Schools," would come first.

The paper read by that gentleman had reference to certain experiments made in providing amusement for working men, some of which were, from various causes, failures. He enumerated, amongst others, the Bilston Working Men's Association, which at first did not succeed. Eventually, they hit upon a means of carrying it on with success, and this was by providing amusements of various kinds in the school-rooms, and in these amusements the inhabitants generally took part, all classes rendering what assistance they could. Concerts, other amusements, and a free-and-easy on a Saturday night, enabled them to carry on their association without difficulty. They tried patronage and it failed, for working men did not like patronage, —they did not want patting on the back. At present they were going on well, and they would be glad to receive visits from the friends in the district. Mr. Hague went on to dwell upon the facility of providing amusements by making amateur talent available. There were many excellent amateurs who were exceedingly kind-hearted, and only required to have the matter placed before them in a right light to make them readily give their services; for public performances in many cases were alike an advantage to the amateur performers and audience. He was quite aware that there were some amateurs who were so highly educated, and whose musical susceptibilities were so delicate, that they could not well expect them to come forward and submit to an indifferent musical performance. He wished that the state of things rendered such a condition impossible, and that music was so generally cultivated, that even the village choirs should be enabled to execute music in such a manner as to enrapture the hearers. Mr. Hague concluded his paper by an eloquent allusion to the beauties of music, and an energetic enforcement of the necessity for providing suitable amusements for the working man, who would have amusement and recreation; and, if it were not provided of a salutary character, would procure for himself what would probably be more prejudicial.

The Rev. T. H. Campbell read a paper on "Saturday Evening Concerts." The rev. gentleman detailed the history of Saturday Evening Concerts at Wolverhampton, as commenced last winter. These concerts were held at St. George's Hall, Wolverhampton, a building capable of seating 1,600 persons, and of holding about 2,000. Fifteen of these concerts were given, the attendance being on every occasion large, there having been at times upwards of 1,500 and 1,700, and on one occasion upwards of 1,800 persons present. After commencing these concerts at prices of admission exceedingly low, it was found desirable to have some shilling seats, and this had a very good effect. The performers gave their services, and the entertainments were highly successful. It had been stated that many, who formerly spent their Saturday evenings in public houses, left their old pursuits, and took to the concert room; and the police statistics showed that during the concert season the returns of drunkenness on a Monday were considerably less than they were previously. The financial result of the concerts was very satisfactory, the total receipts having been £399, and the expenses £212 14s., leaving a balance of £186 6s., to be devoted this season to some object for the benefit of working men. They had the voluntary assistance of eight bands and 140 ladies and gentlemen, and the great success which had attended them was an ample encouragement to the committee to resume them next winter. In the course of some conversation which ensued respecting the effect of these concerts generally upon public-houses, allusions were made to the introduction of draughts, chess, and music in those houses, and the chairman remarked that he was glad to hear of an improvement in that respect. They could not altogether supersede public-houses, and they should therefore try to improve them.

The number of subjects to be discussed prevented the adoption of a formal resolution on each of the points introduced; but it was the general impression of the meeting, that suitable amusements should by all means be provided by managers of Institutions for their members, and these amusements should be of a varied and comprehensive character.

Mr. J. N. LANGLEY (Wolverhampton) read a paper on "Working Men's Colleges." The causes of the original establishment of these establishments were chiefly reviewed, the turbulent year of 1848 being referred to as a time when it was forcibly felt that something must be done to meet the demands made by the working classes for an improvement of their condition. The result of these demands was the establishment of the Metropolitan Working Men's College, in November, 1854, when 140 students were entered, and that number had increased to nearly 400. The establishment at Wolverhampton, with which he was connected, was opened in October, 1857, and it was now nearly in its sixth year. In speaking of his experience of that Institution, he spoke very thankfully of its effect upon himself, as the pursuits inculcated had taught him to rise out of himself, as he contemplated the interesting spectacle of so many who sought to overcome the obstacles which circumstances had thrown between them and the higher branches of education. Mr. Langley detailed the routine of the college, and alluded to its constitution and its working. The expenses were not great, the cost last year being scarcely £75, and they received upwards of £33 in fees. In the course of the reading of the paper the name of the Rev. Mr. Maurice was warmly eulogised. The noble chairman remarked upon the great amount of good Mr. Maurice had done, the many works he had written, and the eminently practical tendency they had, and he had no doubt as to the salutary effect which had been the result of his labours, an effect which would go on increasing. In the course of the conversation which ensued, Mr. Langley said he had omitted to mention the name of Mr. Bayley, a Dissenting minister in Sheffield, who was Mr. Maurice's forerunner in the work, having established a Working Men's College in Sheffield. A very interesting anecdote was related relative to a young man, who, until he was twenty years old, did not seem to be fitted for any occupation. He was induced to attend the Working Men's College, London, and there, in consequence of the teaching of Mr. Ruskin, he became very efficient as a drawing-master, and at present held a position in that capacity in one of the most eminent private establishments in London. Lord Lyttelton was glad to have heard this. He was not aware that Mr. Ruskin had condescended to teach at a working man's college, but the incident just related showed how a great genius could develop powers in others, which, until their contact with such genius had remained latent. Mr. Langley afterwards stated that the number of students who had passed the Wolverhampton College was 349.

The Rev. J. W. Grier read the next paper, a most interesting and valuable one, upon "Special Classes in Institutions." He recommended that writing and composition should be among the first subjects taught. Foreign languages, mathematics, political economy, bookkeeping, &c., were also of great importance. If the working classes only possessed a knowledge of political economy they would avoid those courses which led to calamitous consequences.—Mr. Fuller, of Wolverhampton, addressed the meeting upon the subject of this paper, and in the course of his observations strongly enforced the study of English grammar. It was a notion too prevalent amongst some that the study of the grammar of our own language was of too elementary a character to attract the attention of those who had arrived at mature years. Such, however, should not be the case, as it was a matter of very great importance. He commended to the attention of the meeting classes for the study of chemistry; and in another portion of his speech expressed himself in favour of having good paid teachers, as it was difficult to get efficient teachers without paying them. He drew a definite line between teachers and lecturers, expressing his decided admiration of the former over the latter. Lord Lyttelton, in speaking upon this point, remarked that the effect of lecturing was somewhat indeterminate and uncertain; and though there were many who were professional lecturers who went about from one end of the world to the other pursuing their calling, it was difficult to ascertain what was the result. In teaching classes, somewhat of the result might be ascertained, and one was almost disposed to wish that persons who lectured should show that they had some qualification for lecturing, or else not be allowed to lecture at all. The Rev. T. H. Campbell suggested that the effect of lecturing was to lead to inquiry. He thought it was due to urge thus much on behalf of the poor lecturers.

The Rev. J. H. Thompson (Cradley) read a paper on "Night School Difficulties and Failures." Among the causes of failure were mentioned the inconveniences arising from sending young people out at night, the absence of the necessary control over them after dark, the short time they usually attended at the schools, the want of encouragement to teachers on the part of the Government, and the absence of inducements to regular attendance on the part of pupils. To meet these difficulties the rev. gentleman pointed out certain means which he suggested for adoption, and made a very practical address.

Mr. Crabtree (Gold's Hill) read the next paper, which was upon "Night School Management." He laid down certain practical rules for the teachers of night scools, suggesting a more careful classification of pupils, punctuality on the part of the teachers, &c., the object of the paper being to offer to the voluntary and inexperienced the best modes of giving instruction in the various subjects usually taught in evening schools; it was mainly occupied in practical advice on the management of adults, and the best manner of instructing them. As many night school teachers were present, the paper will doubtless be productive of much good.

Mr. Ward (West Bromwich) read a paper on "Institution Night Schools." This paper had especial reference to the qualifications of teachers, and their being strictly kept to their respective departments, also to the necessity of studying the various dispositions of the pupils, in relation to the course to be adopted towards them in cases of insubordination and conduct of a similar nature. As for the general course of education, good reading and writing, and arithmetic as far as the rules of proportion, and geography, were mentioned as the first subjects which should be taught; then they might go on to English grammar. Care should always be taken to teach principles as well as practice, a knowledge of the principles being given first. This might make the teaching appear slow, but it would eventually be the most productive.

Mr. J. Williams (Dudley) read a paper on the same subject. The paper contained an allusion to night schools connected with the Dudley Mechanics' Institute, the number of pupils in attendance being about 65, and the cost for each session of about six months about £20, exclusive of gas. A discussion ensued, in the course of which the difficulties attending night schools in rural districts were alluded to, and the immense waste of teaching power, which seemed almost inevitable. A question was asked as to the desirability of giving prizes to night schools. It was stated that though the giving of prizes was attended with inconvenience, yet there were certain advantages thereby conferred which fully counteracted such inconvenience. Mr. Langley said that with respect to the giving of prizes, in the Wolverhampton Working Men's College, and that in London, prizes were not given. In reference to prizes generally it did not seem that there was any great objection to the giving of local prizes, except its exhaustive tendency upon the funds. The great difficulty was always to get enough money to carry on the schools.

"Young Men's Clubs" formed the subject of the next two papers. The one by the Rev. G. Fraser, of Wolverhampton, pointed out that a certain class of young men existed who neither cared for a public house nor night school, but for whom it was necessary to provide a warm and comfortable room, and means of quiet enjoyment together. There was such a club in Wolverhampton, which was described in detail. Upon the same subject, Mr. Jones, the secretary, read a paper by the Rev. G. D. Boyle, of Handsworth. This paper alluded to the fact that it seemed almost impossible to make all young men fond of intellectual pursuits. For many, means of enjoyment and recreation must be found free from the evils of the public house. It was desirable to have young men's clubs, and the writer suggested that the first rule should be that all the members should be *bonâ fide* young men of good character. There should be two rooms, one for conversation, pipes, and coffee (the moderate use of beer had been tried at Worcester and failed), the other for reading and writing letters. These rooms should be opened every night, and Mr. Boyle did not object to the latter room being opened on a Sunday evening. The management of such a club should be entrusted, as far as possible, to the members themselves. They objected to patronage, and should be led to feel that they could independently enjoy themselves, not because such enjoyment was good for the poor, but because they saw that the more wealthy classes enjoy themselves freely and rationally. A club of such a nature was in existence at Handsworth, where bagatelle was permitted, of course with strict rules respecting the exclusion of money stakes, and the club was found to work satisfactorily. The reading of the paper was greeted very warmly.—Lord Lyttleton considered the subject a most interesting one. It was a pity the club at Worcester had failed, but they ought to consider the matter deeply. The subject was different from one of recreation; it was one connected with the provision of a home, as it were, for young men. They ought to try and clear up the difficulty, and ascertain why it was deemed necessary to put so many restrictions upon them. There was a club for young men at Hanley Castle, near Worcester, under the auspices of Sir E. Lechmere, and there young men lived, and could procure anything they chose. It was true that they could not buy beer there, but they could send out for it, and might have just what they liked, almost similar to the clubs in London, where gentlemen could go and live from morning till night. His Lordship expressed a wish that they could establish some club in which they could leave out the restrictions so generally imposed. The club at Hanley Castle was managed by the members themselves. Sir E. Lechmere merely superintended it. An interesting discussion took place, which elicited remarks from various gentlemen, generally opposed to the introduction of beer to young men's clubs.

The last paper was read by Mr. Jones, the secretary to the association, the subject being "Accommodation and expenditure in Mechanics' Institutions." The paper suggested various improvements upon the present style of institutions, with some original ideas for establishing institutions in small towns and villages. Various useful suggestions were also added for providing funds for the purposes of such institutions.

A discussion followed, and after some formal proceedings, the following resolutions were put and carried unanimously:—"That the best thanks of this meeting be given to the Right Hon. Lord Lyttleton, for presiding on this occasion;" "That the best thanks of this meeting be given to the committee of the School of Art, for the use of the room for this conference." The meeting broke up at about nine o'clock, and it was stated that the annual meeting of the society would be held at Wolverhampton, on Tuesday, the 23rd of September, instead of Monday, the 22nd, as previously announced.

THE BRUSSELS SOCIAL SCIENCE CONGRESS.

The Brussels meeting of the International Social Science Association, to commence on the 22nd inst., promises to be a complete success, about 800 members from different countries being already inscribed to take part in the proceedings. Great preparations are being made for the reception of the numerous foreigners expected to attend the meeting, for the purpose of which the Government has appropriated the Ducal Palace, formerly the residence of the Prince of Orange. Arrangements have been made whereby members have the privilege of travelling to and from the Congress at half the usual fares, on the London Chatham and Dover, the South-Eastern, Northern of France, and Belgian railways. This privilege is obtainable in England by paying a year's subscription (16s.) to the Association, which will be received, and cards of membership given in return, at 3, Waterloo-place, London. On Monday, the 22nd, the Circle des Arts will offer the members a splendid *fête* in their beautiful building on the Grand Place, called *la Maison du Roi;* and on Wednesday, the 24th, the city of Brussels will give a magnificent entertainment in the Hotel de Ville, when the whole of that noble example of Gothic architecture will be thrown open. The proceedings will be wound up on the following evening by a grand banquet, also to be given at the Hotel de Ville. The experience of M. Corr Vandermaeren in similar organisations promises well.

THE DECIMAL SYSTEM OF WEIGHTS AND MEASURES.

The report of the select committee appointed to consider the practicability of adopting a simple and uniform system of weights and measures has just been published. The following recommendations have been laid before the House, together with a great mass of evidence and tabular appendices:—

"1. That the use of the metric system be rendered legal. No compulsory measures should be resorted to until they are sanctioned by the general conviction of the public.

"2. That a Department of Weights and Measures be established in connection with the Board of Trade. It would thus become subordinate to the government and responsible to Parliament. To it should be intrusted the conservation and verification of the standards, the superintendence of inspectors, and the general duties incident to such a department. It should also take such measures as may from time to time promote the use and extend the knowledge of the metric system in the departments of Government and among the people.

"3. The Government should sanction the use of the metric system (together with our present one), in the levying of the Customs' duties; thus familiarising it among our merchants and manufacturers, and giving facilities to foreign traders in their dealings with this country. Its use, combined with that of our own system, in Government contracts has also been suggested.

"4. The metric system should form one of the subjects of examination in the competitive examinations of the Civil Service.

"2. The *gramme* should be used as a weight for foreign letters and books at the Post-office.

"6. The Committee of Council on education should require the metric system to be taught (as might easily be be done) by means of tables and diagrams in all schools receiving grants of public money.

"7. In the public statistics of the country quantities should be expressed in terms of the metric system in juxtaposition with those of our own, as suggested by the International Statistical Congress.

"8. In private Bills before Parliament the use of the metric system should be allowed.

"10. The proviso in the 5th and 6th William IV., cap. 63, clause 6, allowing the use of 'local and customary measures' in cases where the vessels employed 'is not represented as containing any amount of imperial measure, or of any fixed local or customary measure heretofore in use,' should be repealed as giving facilities to evade the statute.

"11. The department which it is proposed to appoint should make an annual report to Parliament."

FRENCH AGRICULTURE.

Official tables prepared by the French Minister of Agriculture, Commerce, and Public Works show that the area of land cultivated with wheat in each department of France at the date of the recently collected returns was as follows:—Ain, 201,908 acres; Aisne, 268,006 acres; Allier, 158,208 acres; Basses Alpes, 142,082 acres; Hautes Alpes, 46,092 acres; Ardèche, 47,154 acres; Ardennes, 147,782 acres; Ariège, 53,266 acres; Aube, 170,716 acres; Aude, 176,746 acres; Aveyron, 125,152 acres; Bouches-du-Rhône, 114,460 acres; Calvados, 218,510 acres; Cantal, 11,172 acres; Charente, 208,010 acres; Charente Inférieure, 305,270 acres; Cher, 179,762 acres; Corrèze, 39,292 acres; Corsica, 107,336 acres; Côte-d'Or, 266,808 acres; Côtes-du-Nord, 140,916 acres; Creuse, 10,760 acres; Dordogne, 270,808 acres; Doabs, 117,194 acres; Drôme, 239,258 acres; Eure, 234,574 acres; Eure-et-Loir, 208,108 acres; Finistère, 74,260 acres; Gard, 103,974 acres; Haute Garonne, 257,774 acres; Gers, 331,028 acres; Gironde, 168,044 acres; Hérault, 108,818 acres; Ille-et-Vilaine, 211,276 acres; Indre, 171,632 acres; Indre-et-Loire, 204,618 acres; Isère, 188,528 acres; Jura, 123,028 acres; Landes, 56,372 acres; Loir-et-Cher, 157,636 acres; Loire, 58,142 acres; Haute Loire, 35,764 acres; Loire Inférieure, 231,578 acres; Loiret, 161,600 acres; Lot, 177,520 acres; Lot-et-Garonne, 284,658 acres; Lozère, 51,112 acres; Maine-et-Loire, 327,766 acres; Manche, 219,156 acres; Marne, 246,142 acres; Haute Marne, 199,490 acres; Mayenne, 185,164 acres; Meurthe, 205,326 acres; Mease, 230,434 acres; Morbihan, 89,318 acres; Moselle, 187,554 acres; Nièvre, 138,972 acres; Nord, 270,580 acres; Oise, 197,828 acres; Orne, 148,766 acres; Pas-de-Calais, 271,192 acres; Puy-de-Dôme, 131,572 acres; Basses Pyrénées, 114,808 acres; Hautes Pyrénées, 53,426 acres; Pyrénées Orientales, 37,716 acres, Bas Rhin, 113,492 acres; Haute Rhin, 77.838 acres; Rhône, 70,846 acres; Haute Saône, 147,088 acres; Saône-et-Loire, 263,430 acres; Sarthe, 139,976 acres; Seine, 11,188 acres; Seine Inférіere, 239,794 acres; Seine-et-Marne, 199,356 acres; Seine-et-Oise, 185,708 acres; Deux Sèvres, 190,350 acres; Somme, 193,472 acres; Tarn, 170,636 acres; Tarn-et-Garonne, 197,191 acres; Var, 171.192 acres; Vaucluse, 130,422 acres; Vendée, 259,948 acres; Vienne, 221,986 acres; Haute Vienne, 44,960 acres; Vosges, 107,530 acres; and Yonne, 222,338 acres. The extent of land cultivated with wheat in France thus appears to have been 13,970,000 acres, and the average yield being 20·46 bushels per acre, it follows that the average wheat crop of France stands at 35,728,275 qrs. In 1840 the surface of land cultivated with wheat was 11,174,000 acres, and the average yield per acre was only 18·66 bushels. It must be remembered, with reference to this large wheat production, that the French consume probably a larger relative quantity of bread per head than the English.

Home Correspondence.

EVENING CLASSES AT MECHANICS' INSTITUTIONS.

SIR,—It is now about the time to commence active operations in those Institutions which make class instruction an important feature, and serious consideration should be given as to the best means of making the evening classes partially available for their special objects. In the North it has been found, as is no doubt the case elsewhere, that there is a great want of elementary instruction, and though there is often a difficulty in finding teachers able and willing to undertake the duty, yet the difficulty is not insurmountable. Wherever the services of practised teachers from parochial or similar schools can be procured, it is advisable to pay them by a certain portion of pupils' fees, so that they have an interest in increasing the number, and thereby benefiting the Institution. If, for instance, the pupil pay three pence a week—and in most places this is not too high—the teacher would receive two pence for each, and, provided the teacher be a really competent man, this system will be found to work well.

There are, however, many places where such aid cannot be obtained, and then it would be advisable for four or five Institutes, situated at convenient distances, to join in paying an adequate salary for the services of one good master. At each Institute he should have three or four unpaid assistants, and by attending one evening a week at each place, he might, if an able man, maintain all the classes in efficiency.

Care should be taken that the Institution have an especial object in training the pupils to some one or more definite branch of knowledge. In the elementary classes they would, of coure, be taught reading, writing, and arithmetic, to which should be added the rudiments of history and geography, and a knowledge of gospel history, so as to train them for the Elementary Examinations in connection with the Society of Arts. This would be an excellent preparation for studies of a more advanced character; and classes should be formed of the older pupils for one or more of the subjects comprised in the Society of Arts' Programme of Examinations. Were this course more systematically pursued, we might reasonably expect a still greater increase in the annual number of candidates, and a substantial basis given to such an admirable stimulus to national education of a sound and useful character.

It is of great advantage to our rising population that the Society of Arts annually tests their intellectual attainments, stamps their value with a certificate, and incites them to exertion by valuable prizes, crowned with the munificent gift of her Majesty. But the work which makes these advantages attainable—the real preparation for future benefit—must be done by steady application and persevering industry in the evening classes of the Institute. To these, therefore, the managing committees should turn their attention, for on them depends the work of organization. Upon them depends the provision of competent teachers; and they should, by every means of publicity within their power, make known the many advantages to every one within their influence.

I am, &c., BARNETT BLAKE.

Leeds, Sept. 15, 1862.

PATENT LAW AMENDMENT ACT.

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APPLICATIONS FOR PATENTS AND PROTECTION ALLOWED.

[*From Gazette, September 5th*, 1862.]

Dated 27th August, 1862.

2370. A. Crichton, Glasgow—Imp. in looms for weaving ornamental fabrics.
2372. H. Harben, Oxford-villa, Haverstock hill—Imp. in the manufacture of paper and other productions in which fibrous material is employed.
2374. R. Sims, Leigh, Lancashire—Imp. in machinery or apparatus for pulping, stripping, or slicing turnips and other vegetable substances.
2378. W. M. Mayes, Hoxton—An imp. in or addition to wheels, particularly applicable to the wheels of railway and other carriages.
2380. W. E. Newton, 66, Chancery-lane—An improved method of producing light for the various purposes of artificial illumination. (A com.)
2382. A. V. Newton, 66, Chancery-lane—Improved machinery for printing from engraved plates. (A com.)
2834. J. J. Potter, 3, New Bridge, Dover—Imp. in upright pianofortes.

[*From Gazette, September 12th*, 1862.]

Dated 30th April, 1862.

1278. A. Prince, 4, Trafalgar-square, Charing-cross—A new composition for casting, to represent marble. (A com.)

Dated 21st July, 1862.

2074. A. Naudain, West Farms, J. Peacock, Morrisania d W. H. Walton, New York—Imp. in looms for weaving an kinds textile fabrics. f

Dated 31st July, 1862.

2176. W. E. Newton, 66, Chancery-lane—Imp. in lubricating compounds. (A com.)

Dated 12th August, 1862.

2252. J. Ramsbottom and G. Hacking, Accrington, Lancashire—Imp. in machinery or apparatus for measuring and registering the flow of water and other fluids.

Dated 13th August, 1862.

2269. J. R. Tussaud and F. C. Tussaud, Marylebone-road—Imp. in the treatment of representations formed from wax, or from compositions of wax with other matters.

Dated 14th August, 1862.

2286. G. White, Torquay, F. Buckland, Newton Abbott, and C. Rees, Newton Bushell, Devonshire—Imp. in the manufacture of water closets.

Dated 15th August, 1862.

2300. A. Shepard, 55, Victoria-street, Westminster—Imp. in obtaining light, and in apparatus connected therewith.
2304. J. Carter and J. Maher, Victoria Mills, Lockwood, near Huddersfield—An imp. in the construction of power looms.

Dated 25th August, 1862.

2361. M. J. Haines, 4, Victoria-road Rope Walk, Bristol—Imp. in the manufacture of driving bands or straps.

Dated 26th August, 1862.

2366. T. Richardson, Newcastle-upon-Tyne, and R. Allinson, Moorgate-street—Imp. in the manufacture or treatment of articles of steel, and in the apparatus employed therein.

Dated 28th August, 1862.

2388. G. Biddle, Birmingham—An imp. or imps. in the manufacture of brooms.
2390. E. Lachenal, Little James-street, Bedford-row—Imp. in gas meters. (A com.)
2392. G. Cooke, Mornington-crescent, Hampstead-road—An improved apparatus for securing or fastening doors to prevent robbery or intrusion.

Dated 29th August, 1862.

2394. P. L. Guilbaud and N. V. Thire, Paris, 60, Boulevart de Strasbourg—An improved self-inking hand stamp.
2396. F. H. Lefranc, Paris—Imp. in the manufacture of casks.
2398. J. Davis, Liverpool—Imp. in the manufacture of spoons, forks, and similar articles. (A com.)
2400. G. W. Dyson, Tinsley, Yorkshire—Imp. in machinery for finishing and polishing circular metal rods, bars, and shafts, applicable also to the manufacture of metal tubes and pipes.
2404. W. Upfill, W. Morton, and W. Asbury, Birmingham—Imp. in the construction of wheels and axletrees for carriages.

Dated 30th August, 1862.

2406. E. T. Hughes, 123, Chancery-lane—Imp. in the manufacture of woven fabrics, and in apparatus employed therein. (A com.)
2408. F. Le Conte, 10, Rue des Tarisses, Tournay, Belgium—Imp. in the construction of furnaces for steam boilers used in sugar mills, distilleries, breweries, and other mills or factories.

Dated 1st September, 1862.

2414. J. Walker, Glasgow—Imp. in the treatment of kelp, and in the manufacture of products therefrom.
2416. J. Ellis, Old Market-street, Bristol—Imp. in corsets.

Dated 2nd September, 1862.

2424. D. B. Peebles, Edinburgh—Imp. in wet gas meters.
2426. W. Hunt, Tipton, Staffordshire—An imp. or imps. in the manufacture of muriate of ammonia.
2428. R. Glanville, Bermondsey—Certain imp. in marine and other engines.
2430. W. Roberts, Millwall—Imp. in apparatus for regulating the amount of water discharged by a pump, chiefly applicable for regulating the amount of water fed to a steam boiler.

Dated 3rd September, 1862.

2434. C. Garton—An improved method of applying heat in the manufacture and refining of sugar, and in malting, hop brewing, distilling, and vinegar making.
2438. W. H. Atkinson, Cavendish Club, Regent-street—Imp. in studs or fastenings adapted to holding together parts of shirt fronts, wrist bands, collars, gloves, and other articles of wearing apparel.
2440. E. Dyson, Little Hulton, near Bolton, Lancashire—Imp. in throstle spinning and doubling machines.

Patents Sealed.

[*From Gazette, September 12th*, 1862.]

2th September, 1862.

683. J. Cunningham and R. Cunningham.
684. J. Hunter.
687. J. Wadsworth.
692. R. A. Brooman.
703. G. H. Birkbeck.
706. L. Gabler and M. Zingler.
707. G. T. Bousfield.
708. A. J. Paterson.
709. M. A. Muir.
711. A. Coles and W. Coles.
714. C. N. Kottula.
715. G. B. Pettit.
716. J. Smadja.
723. G. Hamilton.
724. J. Robey.
725. W. Pickstone.
726. J. T. Pendlebury and T. Pendlebury.
728. A. S. Stocker and A. R. Stocker.
730. W. B. Lord.
732. W. Bowser.
734. J. Weems and W. Weems.
738. G. T. Bousfield.
739. J. M. Courtauld.
742. W. Gossage.
743. T. Waller.
749. J. Banks.
758. S. Slack.
760. R. A. Brooman.
763. R. Hadfield & J. Shipman.
773. B. Samuelson.
782. D. E. Siebe.
799. R. Gladstone.
831. J. H. Johnson.
859. W. F. Smith & A. Coventry.
876. C. H. Townsend, J. Young, and J. Hankins.
915. H. W. Caslon and G. Fegg.
934. W. Clark.
941. J. Newton.
1044. J. F. Mathias.
1078. G. Fell and W. Haynes.
1109. J. Stanton.
1152. J. Combe.
1545. G. R. Samson.

Patents on which the Stamp Duty of £50 has been Paid.

[*From Gazette, September 16th*, 1862.]

26th August.

1966. B. Baugh.

1st September.

2015. W. Nelson.
2018. G. Parsons.

3rd September.

2089. W. E. Newton.
2257. J. J. Eagleton.

5th September.

2036. E. Blake.
2059. J. G. N. Alleyne.

6th September.

2048. W. Rothwell.
2058. M. M. Jackson.

9th September.

2106. J. Bottomley and A. H. Martin.

10th September.

2080. J. Mason.
2593. A. V. Newton.

12th September.

2158. E. Jones.

13th September.

2083. A. B. Seithen.
2108. B. Lauth.

Patents on which the Stamp Duty of £100 has been Paid.

[*From Gazette, September 16th*, 1862.]

2nd September.

1998. W. H. James.

9th September.

2082. J. G. Martien.

10th September.

2057. M. Curtis.
2088. D. Zenner.
2111. J. Willis.

12th September.

2070. J. H. Tuck.

13th September.

2079. W. F. Thomas.

LIST OF DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

No. in the Register.	Date of Registration.	Title.	Name.	Address.
4503	Aug. 20	A Tap	Isaac Rider	Bedminster, Gloucester.
4504	,, ,,	Improved Fastener for Wristbands	William Charles Edge	13, Owen's-row, St. John-street-road, Clerkenwell, E.C.
4505	,, 25	An Expanding Frame for a double series of Photographic Portraits, intended to be folded up and held in ladies' lockets	Henry Willmott	23, Richmond-street, Birmingham.
4506	,, 28	Improved Joint for Pipes and Tubes	Thomas Wilson Gore	Old Whittington, near Chesterfield.
4507	,, 30	A Tap	James Barwell...	Birmingham.
4508	Sept. 6	Adhesive Stamp Damper	George Thomas Wallis ... George Edwin Smith... ...	Westminster. Bristol.
4509	,, 8	Improved Police or other Dark Lantern ...	George Burt	Birmingham.